

# Thyroid Disease Linked to Early Preterm Delivery

*High TSH and detectable thyroglobulin antibody may predict women who could deliver very prematurely.*

BY BRUCE JANCIN  
Denver Bureau

VANCOUVER — Subclinical thyroid disease constitutes a novel risk factor for very early preterm delivery, Alex Stagnaro-Green, M.D., said at the annual meeting of the American Thyroid Association.

Based upon new findings from the prospective case-control Camden Study, all women with a history of very early preterm delivery (PTD)—that is, delivery before completing 32 weeks' gestation—should be screened for thyroid disease, according to Dr. Stagnaro-Green, professor of medicine at the New Jersey Medical School, Newark.

The Camden Study is an ongoing investigation looking primarily at the relationship between nutritional factors and pregnancy outcome in a cohort of low-income New Jersey women free of preexisting disease.

Given the growing evidence during the

last 15 years demonstrating increased risk of spontaneous abortion in women who have an underactive thyroid or thyroid antibodies, Dr. Stagnaro-Green and his coinvestigators sought to determine whether the incidence of these thyroid abnormalities was also increased in Camden Study participants with PTD.

Of the 953 women in the study who have given birth to date, 124 had PTD, including 28 with very early PTD. These 124 cases were matched to 124 randomly selected controls drawn from the pool of Camden Study participants with term delivery.

Thyroid function testing was performed in all study participants at the first prenatal visit at a mean of 15.5 weeks' gestation. The prevalence of subclinical hypothyroidism as defined by a TSH level of at least 3 mU/L was 14% among women who subsequently had a very early PTD, compared with 6% in women with term delivery or PTD delivery at 32-37 weeks.

Eighteen percent of women who would

go on to very early PTD had detectable thyroglobulin antibody levels at the first prenatal visit, a prevalence nearly threefold greater than in all other women. The prevalence of thyroperoxidase antibody was 14% in the very early PTD group and 10% in all others, a difference that did not reach statistical significance.

Dr. Stagnaro-Green said he is aware of a new Texas study that has confirmed the Camden Study findings. These findings are of clinical import because

until now, physicians have notably been unsuccessful in predicting or preventing PTD, despite a large research campaign funded by the National Institutes of Health and the March of Dimes.

Indeed, the best predictor found to date of which women will have PTD is a history of PTD. And the only effective treatment identified thus far is weekly intramuscular injections of 17-hydroxy

progesterone, which has been shown to modestly reduce recurrences.

PTD imposes an enormous burden on the health care system. It is the number-one cause of perinatal mortality and neurologic disability, with the majority of these out-

comes occurring in the subgroup of women who experience very early PTD. PTD accounts for roughly 5,000 perinatal deaths annually. And the incidence of PTD has been on the rise, climb-

ing from 10% in 1987 to 12% in 1998.

"The impact of preterm delivery in the United States and worldwide can't be overstated," Dr. Stagnaro-Green emphasized.

He added that he personally views the association between thyroid disease and very early PTD as an argument in favor of screening all pregnant women for thyroid disease, a highly controversial proposition that has yet to be incorporated into broad-based practice guidelines. ■



**Subclinical hypothyroidism was 14% among very early preterm delivery labors.**

**DR. STAGNARO-GREEN**

## Vaginal Infection Testing Tied To Decrease in Preterm Birth

BY MICHELE G. SULLIVAN  
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A program of screening for and treating asymptomatic vaginal infections was associated with a significant reduction in preterm birth and miscarriage in a randomized controlled trial of more than 4,000 women.

Researchers randomized 4,155 pregnant women to receive either screening and treatment or screening and no treatment. The screening was administered at a routine prenatal visit between week 15 and 19 of pregnancy, and the women were screened for bacterial vaginosis, *Candida*, or *Trichomonas vaginalis*, or combinations of any of the three, noted Dr. Herbert Kiss and his associates at the University of Vienna, Austria (BMJ 2004;329:371).

About 80% of the women had no vaginal infection; 13% had *Candida* colonization, 7% had bacterial vaginosis, and 1.5% had a combination of bacterial vaginosis and candidiasis. Three women had a trichomonal infection and two had a combination of bacterial vaginosis and trichomoniasis.

Women in the intervention group who had an infection received the appropriate treatment from their obstetricians. They were evaluated at the next prenatal visit. Those with persistent infection received additional treatment. Screening results for women in the control group were withheld from those obstetricians so that they did not influence her standard prenatal care.

The rate of spontaneous preterm birth was 3% in the intervention group and 5.3% in the control group. The rate of preterm infants weighing 2,500 g or less was signif-

icantly lower in the intervention group than in the control group (1.7% vs 3.5%). The number of spontaneous preterm births in the lower weight categories was 50% lower in the intervention group. The rate of late miscarriages was also reduced by 50%.

There were no significant differences between groups in intrauterine death, meconium passage, necrotizing enterocolitis, neonatal sepsis, or neonatal death.

A subgroup analysis showed the greatest treatment effect occurred in the women with a diagnosis of vaginal candidiasis. The number of spontaneous preterm births was almost three times higher in women who were not treated for candidiasis than in those who were treated (20 births vs. 7 births). A much smaller effect was seen in the group with bacterial vaginosis; there were eight spontaneous preterm births in the untreated women and five in the treated women.

Candidiasis has not been associated with preterm birth. However, the researchers suggested, obstetricians who knew their patients had a vaginal infection may have followed them more closely, thus accounting for the good results in the treated group.

In an accompanying editorial, Dr. Anna Alanen agreed that something other than infection treatment probably accounted for the improved outcomes in the intervention group. "The study ... is in agreement with most previous studies concerning the failure of antenatal treatment of bacterial vaginosis to prevent preterm birth. The rate of preterm birth was, however, significantly lower in the intervention group, implying that factors connected to the screening program, including the role of candidiasis, deserve further studies." ■

## Rescreen Pregnant Adolescents for Lower Genital Tract Infections

SAN DIEGO — Repeat screening for lower genital tract infections in pregnant adolescents is reasonable because of high recurrence and persistence rate of infections in this patient population, Andrea Ries Thurman, M.D., reported in a poster session at the annual meeting of the Infectious Diseases Society for Obstetrics and Gynecology.

"Universal screening of adolescents for common genital tract infections will improve their obstetric outcomes," said Dr. Thurman of the department of ob.gyn. at Medical University of South Carolina, Charleston. "They're a different population than pregnant adults in their risk of problems, particularly in their risk of lower genital tract infections."

In an ongoing study, pregnant adolescents were screened for bacterial vaginosis (BV), yeast vaginitis, trichomoniasis, gonorrhea, and chlamydia at their

intake obstetric visit and at their 35- to 37-week visit. A Gram stain of the vaginal secretions was obtained upon admission to labor and delivery.

Dr. Thurman reported on complete data available for 69 patients at the intake obstetric visit and 31 patients at the 35- to 37-week visit. At the intake visit, 33% of patients had BV, 15% had chlamydia, 13% had yeast vaginitis, 4% had gonorrhea, and 4% had trichomoniasis.

At the 35- to 37-week visit, 19% of patients had chlamydia, 16% had BV, 13% had yeast vaginitis, 3% had trichomoniasis, and no patients had gonorrhea.

Of the lower genital tract infections identified at the 35- to 37-week visit, the following were new diagnoses: 100% of the trichomoniasis cases, 80% of the BV cases, 75% of the yeast infections, and 50% of the chlamydia cases. The rest were recurrent infections from the intake visit, despite receiving treatment.

Gram stains were obtained from 94 pregnant teens on admission for labor and delivery. Investigators observed that Nugent scores for vaginal flora did not differ between mothers who delivered preterm and those who delivered at term. They also found that screening for BV at 35-37 weeks does not appear to be predictive of BV at admission for labor.

—Doug Brunk

